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Contracts, Relationships and Innovation in Business-to-Business Exchanges

Structured Abstract:

Purpose

This paper contrasts two approaches to the study of contracts in business and industrial marketing: First, as a legal document in shaping at the outset exchanges and interactions, for instance in projects; and Second, as relational norms in becoming integrated into a business relationship through interactions, for instance as a resource.

Approach

The paper draws on cross-case comparison of three projects as actors develop an engineering service for optimising the maintenance of large-scale capital equipment by analysing data acquired from user records and in real time from sensors.

Comparison is by coding interview and observational data as micro-sequences of interactions among actors.

Findings

Preparing contracts allows a project to commence and is an early form of interaction, intensifying new relationships, or cutting into and recasting established ones.

Relational norms augment and can supersede the early focus on the contract, so incorporating incremental innovation and absorbing some uncertainties.

Limitations

The research approach benefits from detailed comparison and captures some variety across its three cases, but our discussion is limited to theoretical generalization.

Practical Implications

Our analysis and discussion highlights and focuses on when different approaches to understanding contracting are more apparent across durable business relationships.

Transitions from a contractual document to a view of relational norms are subtle, vulnerable and not always made successfully.

Originality

This paper's originality is in its comparison of overlapping approaches to understanding businesses' uses of contracts in business and industrial marketing, of contract and relational norms. It develops a valuable research proposition, in the transition from a mainly contractual to a mainly relational uses of contracts, so identifying contract as a particular business resource, to be deployed and embedded.

Keywords: Contract, Relationship, Innovation, Interaction, Innovation services

1. Introduction

Actors encounter and mobilize contracts regularly in industrial markets, but contracts, in contrast to incremental innovation and product and service development, have been less prominent in empirical research and less conceptualized. Incremental innovation is a long-established theme in IMP research, captured in its network framing (Prenkert, et al. 2009; Hoholm and Araujo, 2011), focus on interaction (Håkansson and Snehota, 1995), interactive model of actors, resources and activities (Harrison and Waluszewski, 2008), and its resource interaction model (Håkansson and Waluszewski, 2002; Baraldi and Waluszewski, 2005; Baraldi, et al., 2012).

Researchers have proposed two approaches for incorporating contracts into this research agenda: Blois (2002) and Ivens and Blois (2004) have investigated the commonalities and extensions to the concept of relationship through Macneil's theory of relational contract, focusing on contracts in use (Macneil and Campbell, 2001). Mouzas and Ford (2012) and Mouzas and Blois (2013) argue that a contract can be a meta-resource, which can enable business relationships, for instance as framework or umbrella agreements. Hence, we identify contrasting perspectives on actors' uses of contracts: in framing business activities in advance; and as drawn into business relationships, perhaps to be superseded by a set of relational norms as these emerge.

The paper draws on case study research into three projects in which actors in business units developed industrial services to optimize the maintenance of large-scale processing and manufacturing plant. Actors used these services in "beta version" prior to an anticipated commercialization. Given our expectations as to the adaptive

quality of resources, including intermediate goods and services, and a focus on incremental innovation organized through projects, we anticipated that tensions would emerge in practice. We found careful transformations between contracts as developed prior to a business project, and as contracts were drawn into an emerging set of relational norms during projects.

2. Contracts in Industrial and Business-to-Business Marketing

Research

2.1 Incremental innovation and resources

Research into business-to-business relationships and exchanges show that resources - business units, relationships between the personnel of business units, production facilities, or intermediate goods and services - typically develop in use through many-to-many interactions (Håkansson and Waluszewski, 2002; Cova and Salle, 2008). A focus on resources blurs distinctions between autonomous, emerging and planned innovation, of actors adapting to another's modifications in use or production and planning projects, raising significant challenges for contracting in incremental innovation (Westerlund and Rajala, 2010).

Srai and Gregory (2008: 394) describe as “re-configurability” the temporal nature of an industrial network, allowing business goods and services to be linked, decoupled and rearranged according to the interactions among producers and users. Many actors contribute to the development of resources through a complex of user-patterns as accumulations of adaptations, perhaps within a particular focal relationship but emanating from or augmented by activities elsewhere in a network (Cantù, et al.,

2012; Finch, et al., 2012; Gadde, et al., 2012). This finding is also established in management studies research into inter-organizational and network relationships (Björk and Magnusson, 2009; Dhanaraj and Parkhe, 2006; Rampersad, et al., 2010; von Hippel, 2007).

2.2 Contracts considered prior to episodes of business interaction

Contracts are under-researched in business-to-business marketing, which is remarkable given their ubiquity in practice. This may be due to contracts being often in the background of the more prominent research areas of relationships and interaction. Two approaches into incorporating contracts have gained prominence. Blois (2002), Blois and Ivens (2007, 2009) and Harrison (2004) develop Macneil's relational theory of contract (Macneil and Campbell, 2001), addressing how the social properties of relationships make contracts work. By contrast, Mouzas and Ford (2012) argued that contracts can be a meta-resource, with those party to industrial exchanges being more or less effective in drawing upon these to establish relationships and exchanges. As such, actors can use contracts to articulate their goals and ways of aligning these (Corsaro and Snehota, 2011).

Following Alchian and Demsetz (1972) and Williamson (1985) contracts allow actors to allocate resources by securing and transferring their property rights (Araujo, et al., 2003). Coase (1937, p. 21) highlights the active shaping of resources as integral to their allocation and contractual fulfillment. Even without written contracts, processes can acquire legal standing. For example, in long-standing exchanges the German principle “auf Treu und Glauben” or “bona fide” binds actors to tacit agreements, which have acquired a facticity by virtue of their longevity (Teubner, 2001).

Macauley (1963) acknowledged the need for “good faith” in business contracting, arguing that “many, if not most, exchanges reflect no planning, or only a minimal amount of it, especially concerning legal sanctions and the effect of defective performances” (Macauley, 1963:60). Similarly, Goetz and Scott (1983) recognized contracts' promissory elements inherent in their performance and fulfillment, expecting actors joined by a contract to interact across a succession of exchanges, enhancing their prospects of coping with endemic uncertainty.

Formal contracts can lose their initial impetus or prove to be impracticable as business relationships develop (Posner and Rosenfield, 1977:85). Instead, if actors experience difficulties in mobilizing resources in conditions of embeddedness, “relational costs” as a recurrent need for re-negotiations of formal contracts remain high (Corsaro and Snehota, 2012; Roels, et al., 2010). The pursuit of incremental innovation poses a risk to contract enforcement (Lerch, et al., 2010). A contract could be supplemented by the exertion of power (Zaefarian, et al., 2013) or require a controlling of business exchanges, for instance as projects (Yang et al., 2011).

2.3 Contracts, drawn into business relationships

Macneil (2000, 2002) includes social balance as a “relational contract” in which actors seek justice with relational contributions in addition to contractual obligations. Blois (2002), Blois and Ivens (2006, 2007) and Ivens and Blois (2004) applied Macneil's framework, drawing together norms, the atmosphere of exchange, and harmonizing the governance of exchange, with “the social matrix” of how actors draw

upon ‘living contracts’ over time. Macneil’s relationship traits capture actors’ role integrity, reciprocity, implementation upon planning, solidarity, and the linkage of interests. The behavioural norms include the restraint given any unforeseen changes, which would offer chances for opportunism (Whetten, 1982). Consequently, Macneil highlights the “extensive, long-term relationships ... as a distinctive form of contracting” (Feinman (2000) and the “implied contract” (Harrison, 2004).

Researchers have proposed ways of analyzing patterns of interaction. Quintens and Matthyssens (2010) find that actors construe their embeddedness by duration, sequence and pace. Ramos and Ford (2011) develop temporal criteria to assess the intentionality of actors within dyadic relationships, sharing resources and attempts at creating their network’s past, present and future events. Fang and Chiu (2010) and Gu and Wang (2011) emphasize a “virtual community of practice” with altruistic and conscientious knowledge sharing. In sum, the effective governance of relationships has significant effects on the performance of business relationships (Yang, et al., 2011).

We summarize the gap to be addressed by asking:

- (1) In business-to-business collaborations directed at incremental innovation, by which arrangements are norms and rules of exchange established and maintained?
- (2) As business-to-business collaborations mature, how do arrangements for making exchanges change?

3. Research Approach

3.1 Case Studies

As contracts, rules and norms in relationships concern processes, case study methodology is appropriate (Van de Ven, 2007). Analytically, we undertook a series of abductive cycles across three comparable projects drawn from broader research into the development of industrial services studied over three years. We undertook open-ended interviews with the project leaders, which we recorded audio-visually and produced verbatim transcripts, as summarised in Table 1(below). We asked project leaders to sketch a map of their project and drew upon this in identifying other key personnel, seeking interviews with them. We participated in workshops, team meetings, technical conferences and presentations of prototypes. We composed detailed records of meetings and workshops, complemented by email requests where we required clarification or background information. Some of the passages in the transcriptions became bases of narratives and we used these as quotations (Pentland, 1999).

[Please insert Table 1 about here]

3.2 Comparative Cases

IndSyst, a trans-national corporation specializing in engineering processes and automation, had established a global full service division to offer technical support in the management of plant, including by using sensors and information processing technologies, some in real time. Full service contracts were a profitable business stream with the potential for expansion. To enhance its competitiveness, IndSyst's R&D division had developed a range of services that required deployment and

collaboration with customers as ‘fast-beta versions’. We selected three projects, similarly innovative and challenging, being incremental from users' perspectives. In two cases the clients were internal customers, and in the other a consortium for a joint-industry project. We set out characteristics by which we compared the three projects below in Table 2.

[Please insert Table 2 about here]

3.3 Analytical strategy

Our dataset comprised several hundred pages of written materials containing multiple perspectives of the three projects. We translated these as case studies with common characteristics focusing on the actions, interpretations and understandings of our informants (Bartel and Garud, 2009). We identified events within the projects and examine how these were connected prior to, concurrent with, or following-on from one another. The events were micro-sequences of interaction, which we drew upon to identify transformational stories (Czarniawska, 2004). We coded the patterns of events and sequences within projects around the themes of product/service, price and value. As we had obtained network sketches from most of the participants, we cross-referred interviewees' descriptions (Yakura, 2002, p. 968). We held a series of follow-up meetings with key respondents to verify our findings.

4. Findings

4.1 The uses of contracts

The projects were initiated by contracts. Partners met regularly to define the projects'

technical questions, agreeing the technical base and key performance criteria. As the projects contained novel modules, processes and interfaces, technical, legal and accounting personnel identified and assessed the projects' risks. The ensuing contractual agreements reconciled visions of project outcomes with the expectations across the R&D and full service divisions, and the customers.

The contracts contained detailed synopses of the extent and distribution of workload, the estimated cost and its allocation among participants. The contracts established the projects' contingencies operationally, in part by referring to similar past projects. The contracts included processes for attributing financial authority and accountability to the project leaders, and attributing expenses for financial reporting. Non-disclosure agreements were incorporated due to the cross-departmental and inter-organizational exchanges required of the projects. The contracts foresaw regular reports of a certain format, project milestones with review points, and work packages. IndSyst's senior manager oversaw projects and reflected upon learning about producing contracts for projects:

Each time I make a new contract, it becomes longer than the previous one. ...

You can hope that the project takes off in the right direction, with the help of the initial paperwork. But usually, the contract has no other meaning than that.

4.2 The awareness of a project's resources

Our respondents were well aware of the resources at their disposal. Discussion of resources was translated into measures of financial outlays and work-time equivalents in IndSyst's accounting system. Project managers anticipated, calculated

and recalled their share of the projects' costs and benefits in quantifiable terms.

Project 1's manager was well aware that investing in a project was double-edged: "If I invest much money, I am prepared to also make a higher personal commitment accordingly. But conversely, I have a much stronger expectation".

The contracts served as an initial orientation, a basis for committing resources and expenditures to be incurred for the potential of a presumed benefit. Accordingly, Project 1's manager illustrated the balancing of deliberations between the supplier and customer: "This positive commitment is enhanced by the money, but the beneficial effect is much more relativized". As every activity, software purchase, and all travel expenses were recorded and allocated to a project, the administration created the awareness of the monetary value of inputs.

4.3 Reflecting on embeddedness

The contracts clarified the project leaders' expectations of their respective contractees. In Project 2, where a mobilization suite for on-site technicians was to be developed, the project leader translated the signed agreements into business objectives:

This is a project with which you can optimize processes, that is basically its justification. I would say it is a mixture of an overdue innovation and a redesign, albeit not a radical one.

Personnel of IndSyst's service division incurred considerable effort to apply the innovations devised by its R&D group. In Project 2, an on-site technician contributed

overtime paid by his own unit to make the pilot run:

As [our business] is customer support around the clock, during the project's start-up I had to be involved personally to solve some technical issues, over the night, during holidays and on weekends.

The technician's contribution had not been anticipated in the contract. A renegotiation process was impossible due to that initial contract's legally binding status. Moreover, as such unforeseen eventualities emerged frequently, such changes in would have become impracticable as these would have accumulated over the project's duration. Extensions of schedules, changes in functionality and increased dedication of personnel had to be negotiated and benefited for actors' positive attitudes throughout Projects 1 and 2.

Where consensus failed, the contract was adhered to as much as possible, as observed in Project 3 where the status meetings captured detailed adherence, as in the following protocol:

Last year's alert reports, half-year reports, (project leader thanks for support)

Controlling data has improved over time; now very accurate

Communication procedures of pilot project published in company magazine

Resorting to mundane activities indicated a lack of relational development.

Accordingly, there was progress only in short-term measures in the sub-projects.

These sought to fulfill the lowest common denominator, the parts of the contract that had not yet become impracticable.

4.4 Establishing and maintaining balance

With Project 2, the customer's site manager took into account the monetary equivalents as he did with normal work time for his personnel. This manager had already accounted for the quantifiable pay-off in saving resources and the subjective benefits of having a tailor-made operations and control suite, as depicted in Table 3.

[Please insert Table 3 about here]

The sequence (above) shows that the customer's team manager made calculations to measure the use of resources as a share of the project's inputs. As Project 2 concluded, he saw a balance in the monetary benefits of the new service and in the inherent value of participation. We recorded similar patterns of reflection and calculation across the three projects. Early in Project 2, the customer balanced the current and future costs against the anticipated benefits of the project outcome, as illustrated by the sequence in Table 4:

[Please insert Table 4 about here]

The sequence begins with a weighting of priorities, focusing on the deployment of resources as to a deliverable and benefit, but shifts towards Project 2's business objectives after determination of the costs to be incurred. Conversely, if the perceived balance failed to emerge, project partners' constructive attitudes did not develop. A

similar internal calculation in a later stage of Project 3 – the least successful of the three projects – is shown as a sequence in Table 5.

[Please insert Table 5 about here]

With Project 3, the manager from IndSyst's service division experienced a negative balance from the collaboration. As with the two sequences above, the balance was drawn from reflection and calculation of inputs in accounting terms, of having resources deployed in the project rather than in other activities, and the development of those resources by being deployed in the project. With Project 3, participants defined their goals for the project alongside other activities in their organizations, enough to keep the project going by reacting to problems, or the pursuit of their goals that required minimal resources. We observed the renegotiation of Project 3's common intent; participants drawing upon the lack of precision in the contract as a basis for evasive behavior. Despite similar introductory steps, the three projects turned out differently, as illustrated in Table 6:

[Please insert Table 6 around here]

The contract, considered relationally, enabled Project 1's participants to adjust and adapt its goals, reducing its scope, and still assess its outcome as a success.

Participants experienced fewer surprises with Project 2 and contemplate extending its scope and number of deliverables, also redrawing its requirements. With Project 3, a renegotiation proved impossible and the common goal was diminished successively as participants re-assessed the planned technical developments, seeing these as

impractical. The project's common denominator became, almost, non-fulfillment. As the contracts' active and governing influence became obsolete in Projects 1 and 2, relational contracts gradually assumed the role of ordering and indexing. Failure to reach this consensus in Project 3 resulted in project failure.

5. Discussion

5.1 Contracts as processes and resources prior to and within projects

The contracts constituted an activity, ordering the initial givens of resources and actors and the ways in which they were to be coordinated, anticipating and regulating future activities. The activity of writing the contracts promoted contracts as a harmonizing device, creating a joint perception of the project's environment, the technological potential, and the desired outcome. The initial negotiations managed to anticipate the confidentiality, internal regulation, documentation and reporting mechanisms and standards by which an ordered exchange of knowledge, capabilities, and technical know-how was enabled. After signing, these contracts had to remain unchanged throughout the projects, mainly for legal reasons. Due to this requirement for stability, the contracts became a resource for identifying technologies, resources in the partnering organizations, the desired benefits the innovative services, and the allocation and interaction of project staff.

Our first research question was: In a rich innovation-directed industrial business-to-business collaboration, by which static and dynamic reciprocal arrangements are common norms and rules established and maintained? Our answer is that processes

of technical, organizational, and financial negotiations initiated the business-to-business projects, gathered into a formal contract. Contracting was transferred into the – now static – normative contract, which acted as a frame for the ensuing collaboration. The contract served as a process and instrument for an initial phase of interaction.

5.2 Relational contracts in use

The adjustments had to be made by a different kind of activity, the formation of the relation norms, which in a similar way as the formal contract anticipated the need for ordering and circumspection. This mutual and long-term orientation, and emerging positive attitudes, were observable in the more successful Projects 1 and 2. We found no evidence of actors renegotiating their management practices opportunistically in these projects. However, the emphasis on long-term processes and planning compensated for the obsolescence of the formal contract by establishing a binding de facto agreement for coping with the project's contingencies. These findings reinforce our view of actors' conscientious, sometimes altruistic, long-term mind-set as becoming a relational norm.

Contracts became obsolete as a resource for guiding Projects 1 and 2. After a certain period the relational norms exceeded a level of harmonization to ensure the continuation of the project and its business exchanges. By establishing sets of norms that shaped participants' attitudes to one another and to a more general understanding of the project's goals, the norms superseded the contract as a resource at least to the extent that circumstances anticipated initially had changed. However, there was no need to finalize the iterated negotiations in a manner similar to finalizing the initial

contract at signature; the emerging norms enabled a continuous adjustment of common goals as further unexpected developments became manifest.

Our second research question asked: As business-to-business collaborations mature, how do arrangements for making exchanges change? Our answer is that the contract regulated the initiation phase of the business-to-business collaboration. Its technical and organizational details became increasingly obsolete due to unforeseen developments and new requirements, which are typical in innovation ventures. A normative consent, as a set of relational norms, was installed and ensured an orderly, mutually dedicated, atmosphere. Our analyses indicates that particularly the initial phases will have a neutral or positive orienting influence, although the coercive nature of the project can yield a negative attitude from the start. Transitions towards relational norms were characterized by an alignment and the pursuit of a common goal, leading to a beneficial performance level.

However, a renewed contracting phase may be induced by a dispute or crisis invoking a negative transition phase. As dissent as to the goals to be pursued becomes manifest, the contract can be resorted to as a means of appeasement or litigation. This is illustrated in Project 3, which saw a divergent perception of the collaborative phases by actors, similar to that highlighted by Corsaro and Snehota (2012). In Project 3, dissatisfied participants frustrated the emergence of relational norms by reverting to the contract, using it as a resource but one that weakened performance. Even though IndSyst's personnel contributed business cases and technical input from the outset, there was little reciprocation among the other partners. As a long-term perspective could not be achieved and partners' goals remained incompatible, some partners

resorted to pseudo-contributing activities and evasive actions. A legal dispute was avoided because the conditions of the contract were fulfilled, but with a mutual loss of resources and perspectives. We summarize the cross-case findings as to the relational stages, the pursuit of common goals, and prevailing activities in Table 7.

[Please insert Table 7 about here]

6. Conclusions

6.1 Contribution to theory

Blois and Ivens (2007) consider Macneil's terms of "implementation" and "effectuation of consent" as contractually regulated activities, attributing "harmonization of goals" and "mutuality" to an emerging set of relational norms, drawn together in an abstract process of "planning". Planning emphasizes an outcome, a written articulation of alignment goals (Corsaro and Snehota, 2012). Further refining these concepts, we found extensive phases of contract negotiation, taking as long as half the time allocated for the subsequent project. We conclude that forming a contract is a business activity, and part of a structured and possibly intense interaction between business organizations that can either initiate new business relationships, or allow actors to step back from past relationships, reconfiguring these for a new project in anticipation of a new instance of interaction. The contracting phase requires those preparing contracts to draw upon the contracting organizations' technical expertise, applied to a new episode of interaction. In this phase of preparing a contract, events in previous projects made them take precautions they deemed

appropriate.

Once signed, the contract seems to acquire a stable quality, but as a resource can be deployed in multiple ways, which is in common with IMP researchers' general understating of business resources (Baraldi, et al., 2012). In the innovation cases under scrutiny caution pertained to a fair allocation of monetary and personnel costs and benefits. This ideal of balance was emphasized in all three projects, as the anticipated need for continuous refinement with the customer in the face of uncertainties were most likely to strain the subsequent exchanges. Even attributes of the relational norms as set out by Blois and Ivens (2007), reciprocity, role integrity, and flexibility, were built-in and enforced by an initial contractual safeguarding of exchange mechanisms. The presumed initial mutuality is tied into the contract by this reconciliation of viewpoints and confidentiality agreement, the outcome of this intensive process, constituting an important ingredient for initiating a project.

Gradually, a set of relational norms can take over although with the successful projects we examined, the contract became superseded by relational norms. While we agree with Mouzas and Ford (2012) that a contract is used as a resource, we did not examine any umbrella agreements, so cannot comment on whether contracts can become a special kind of meta-resource. The most mindful use of a contract, as a written document, was in a negative sense among one of the three projects, signifying a relative failure in establishing relational norms. The relational norms emerged in two of the three projects through insensitive interaction among its participants – commencing with preparing a contract initially – allowing the smoothing-out of oscillations in the relationship life cycle scrutinized by Corsaro and Snehota (2012).

6.2 Managerial implications

Managers should be aware of the multiple roles of contracts and the complementary beneficial effect the relational norms may have after the initiation of a project or other means of business exchange. After the signature, we found the contract to assume its – legally enforced – stasis, a frozen status. It is predominantly at this point that we observed the collaborations developing as specific relational norms set in. However, this attitudinal trait is not rigid either; the negotiations as to relational norms do not have an imposed end such as a signature. Innovation strategists should see that it is by flexibility and the mutual preservation in the set of relational norms that partners support a development. We saw its greatest benefit in enabling renegotiations of the initial common goals – albeit legally tied into the project – in harmony without potential for lengthy disruptions or litigation. In this duality the relational contract persists beside the contract, but we saw the former recede quickly as unforeseen technical developments superseded its initial and common goals.

6.3 Suggestion for further research

Our research has two limitations. The two best-functioning projects were within the IndSyst group, although that there were contracts qualifies any expectation of prior goal alignment. Also, the contracts were not tested in a court, unlike with Harrison's (2004) cases. Nevertheless, our findings confirm the need for a greater emphasis on contracts as a resource both produced and used within industrial networks (Mouzas and Ford, 2012). Whereas the body of literature does not make a precise distinction between the process of contract generation and the fixed, signed, contract as a resource to be used for mediating a project or other exchange, we discovered a great

difference between these two understandings. This difference points to further insight into the complementary role of the set of relational norms, as approximating a relational contract, and deepen the understanding of uses of contracts in business-to-business relationships.

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Table 1: Synopsis of the cross-case study

	Case 1	Case 2	Case 3
Description	Proof-of-concept for reliability prediction and resource flow in industrial equipment in full service	Mobilisation of repair, maintenance and asset management for full service engineers	Technical enabling of high process variability and decision support for asset and resource flow in full service
Business units/ companies	Several independent full service divisions across IndSyst	Two large international full service divisions across IndSyst	A full service division in IndSyst; three more companies, two think tanks, one IT chair in a University
Degree of uncertainty of innovation	High	Medium	High
Contract frame	Plc regulations; Company A internal regulations	Plc regulations; Company A internal regulations	German Commercial Code (HGB) regulations; Plc regulations

Detailed formal agreement process	Kickoff Two specifications documents Cross-divisional agreement	Kickoff One specifications document Cross-divisional agreement	Formal specification Tendering process Kickoff Umbrella agreement 1 comprehensive requirement document
Duration	2 years (2009-2011)	2 years (2009-2011)	3 years (2009-2012)
Volume in IndSyst	€250,000	€300,000	€1,200,000

Table 2: Empirical work for the three cases, 2009-2012

Kind of interaction	Typical duration	Case 1	Case 2	Case 3
Technical presentations	2 hours	4 hours	10 hours	2 hours
Joint workshops	8 hours	8 hours	8 hours	44 hours
Personal interviews	½ – 2 hours	5 hours	3 hours	14.5 hours
Phone call	½ – 1 hour	6 hours	3 hours	47 hours
Informal discussion with stakeholder	½ – 1 hour	14 hours	5.5 hours	14 hours
Research discussion with team	2-3 hours	14 hours	7.5 hours	41 hours
Evaluation of secondary materials		500 MB	400 MB	6 GB
Network drawings obtained		5	4	11
Repertory grid questionnaires		5	4	11

Table 3: Sequence of a full service manager's perception of the input-output balance in Project 2

Product/Service	Price	Value
	Service manager: we had this project "job" in addition to our routine work	
	The time my team put in the project we didn't have for reaching our revenue targets Committing this time was a burden	
	We made a lot of work for other service organizations implicitly	
The outcome was very promising		I clearly saw that it was what we needed here
The outcome was the desired, tailor-made mobilisation suite		My team still benefit from our pilot input The acceptance of the new suite in my team is particularly high

Table 4: Sequence on project decision in Project 3

Product/Service	Price	Value
	Would it pay off to invest in a harmonisation of graphical user interfaces?	
	The on-call coordinators would have to invest a lot of time to provide the needed specifications and feedback for this	
	How can we make the best of the project resources?	
Case-based decision algorithms are needed much more urgently		It will make much more sense to invest our common effort into case-based decision algorithms

Table 5: Sequence on perceived imbalance and disappointment

Statements of customer (service unit) in Project 3

Product/Service	Price	Value
	Service unit: your (the supplier's) company is receiving several hundred man-months for this project	
	You keep asking for test cases and we provided everything we had	
Aren't you providing a comprehensive two-way integration?		We won't see changes made to our customer data immediately
		This way, the application will not constitute an improvement for our unit.

Table 6: Cross-case findings

Characteristics	Case 1	Case 2	Case 3
Juridical frame	Plc regulations, IntSyst internal regulations	Plc regulations; IntSyst internal regulations	German Commercial Code (HGB) regulations, Plc regulations
Detailed formal agreement process	Kickoff 2 Requirement documents Cross-divisional agreement	Kickoff 1 Requirement document Cross-divisional agreement	Formal specification Tendering process Kickoff Umbrella agreement 1 comprehensive requirement document
Formal goal(s)	Either: technical evaluation and assessment of competitors' claims, or: sellable reliability prediction tool	Sellable product	Proof of concept and pilot for a sellable product
Project climate	Unitary	Unitary	Egoist

Outcome	Scientific evaluation of technical potential and founded refutation of competitor claims	Sellable product	Punctual instances of proof-of-concept
Participants' judgement on success	Successful evaluation	Successful innovation	Failure

Table 7: Harmonizing the actor's goals in a relational contract

Construct	Case 1	Case 2	Case 3
Harmonisation of goals	Goals were aligned from the outset, no one took advantage of others' temporal weaknesses	Bilateral goals and a comprehensive mission effectively fostered goodwill	The absence of a joint goal, evasive behaviour and the “free rider” problem hindered the relational contract
Relational contract	Positive throughout	Positive and monotonously increasing despite a high work load	A small positive in the beginning, declining near zero over time
Sequence of contractual phases	Formal – transition – relational	Formal – transition – relational	Formal – unilateral transition – formal
Sequence of prevailing activities	Contract negotiation – harmonisation – implementation – testing – information	Contract negotiation – harmonisation – implementation – testing – product introduction	Contract negotiation – input negotiation – workload discussions – regulation – withdrawal

